

User's Manual

A0
SD-013A



USER'S MANUAL: A0

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FCC Notice

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

BZT Notice

Bescheinigung des Herstellers/Importeurs

Hiermit wird bescheinigt, daß der/die/das

[1] Digitalisiertablett, SD-013A
(Gerät, Typ, Bezeichnung)

in Übereinstimmung mit den Bestimmungen der BMPT-AmtsblVfg 242, 243/1991 Vfg 46/1992 funktentstört ist. Der vorschriftsmäßige Betrieb mancher Geräte (z.B. Meßsender) kann allerdings gewissen Einschränkungen unterliegen. Beachten Sie deshalb die Hinweise in der Bedienungsanleitung.

Dem Bundesamt für Zulassungen in der Telekommunikation (BZT) wurde das Inverkehrbringen dieses Gerätes angezeigt und die Berechtigung zur Überprüfung der Serie auf Einhaltung der Bestimmungen eingeräumt.

[2] WACOM Co., Ltd.
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Name und Anschrift des Herstellers/Importeurs

Safe and Proper Use of SD-013A

■ Use and Storage

- Do not place a SD-013A where infants can reach it.
- Do not place a SD-013A where the environmental temperature exceeds the operating temperature range (5° C ~ 40° C).
- Do not place a SD-013A where there may be a severe or sudden temperature change (e.g., outdoors, in vehicles, etc.)
- Do not place a SD-013A where there is high humidity (operating humidity: 20% ~ 80%).
- Do not place a SD-013A in a dusty environment, in direct sunlight, or close to a heater.
- Do not place a SD-013A in a wet environment or close to items producing a strong magnetic field.

■ Handling

- Do not put heavy articles on your SD-013A. Do not drop articles on your SD-013A.
- Protect your SD-013A from intensive shock or vibration. Hitting or dropping your SD-013A may damage it.
- Do not disassemble the SD-013A. There are no user serviceable components. Disassembly will void your warranty.
- Do not disassemble the stylus and the cursor.
- Do not use thinner, benzene, alcohol, or other volatile liquids to clean the SD-013A, the stylus or the cursor.

■ Operation

- Only one pointing device, the stylus or the cursor, may be used at a time on the SD-013A.

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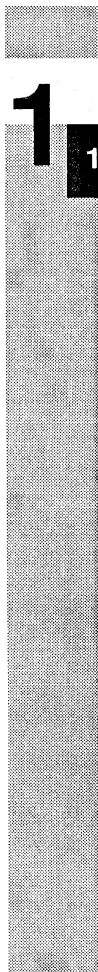
About the Manuals

NOTICE

This manual does not include a stand description.
Refer to the manual for the stand, if necessary.

This manual presents information on digitizers in general and on the WACOM SD-Series in particular with sections on principles of operation, definitions, maintenance, and DIP switch settings.

- For PC installation procedures, see *PC Installation and Utilities*.
- For Macintosh® installation procedures, see *Macintosh Installation and Operation*.
- For programming information, send for the *WACOM Programmer's Manual*.



The WACOM Advantage

Congratulations on choosing the WACOM (pronounced **walk'-come**) advantage and welcome to the world of cordless digitizing.

The unique WACOM technology provides a set of selection and drawing tools ergonomically designed to be natural extensions of the hand. *Cordless*, they free the designer from the interruption of snarled cords. *Very light*, they use no batteries and no magnets.

Users can choose from a variety of pointing devices including a four-button cursor, a sixteen-button cursor, a standard stylus, a *slim* stylus and the first cordless, battery-free *pressure* stylus providing the user with a new dimension of input capability.

The WACOM technology has also developed a tablet surface that allows the stylus-to-tablet "feel" to simulate a pen-to-paper feel. Thus the drawing tools, selection devices, and tablet provide a more natural and comfortable man-machine interface.

The WACOM Advantage

Great Choice!

Technology

1-1

1 Principles of Operation

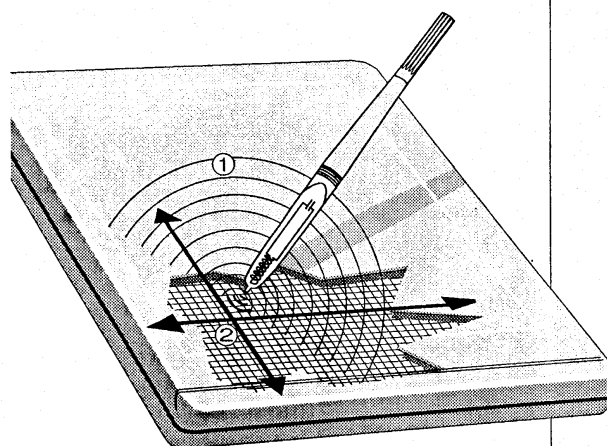
With WACOM's patented technology, the digitizer alternates continuously between transmit and receive mode (changing modes about every 20 microseconds). Refer to Figure 1-A. In transmit mode, the tablet sends a signal at a particular frequency, producing electromagnetic resonance in the pointing device. The pointing device stores the electromagnetic energy using a coil-and-capacitor resonant circuit.

When the tablet goes into receive mode, the pointing device re-emits a signal at a different frequency which carries switch and pressure data to the tablet. The tablet computes the coordinates based on signal strength across several grid wires under the tablet surface. The tablet then translates the data to millimeters or inches, ASCII or binary,¹ and sends the data through the serial port to the host.

Because there is no power source in the pointing devices, calibration and tuning are unnecessary.

¹ Depending on DIP switch settings or programmer instructions

Figure 1-A
The WACOM Technology



- ① TRANSMIT MODE — The tablet sends a signal at frequency A, producing electromagnetic resonance in the pointing device.
- ② RECEIVE MODE — The pointing device re-emits a signal at frequency B.

1	
Software	<p>To facilitate installation and use, the WACOM digitizer comes with drivers and utilities with helpful hints to allow the tablet to be used with most applications.</p>
Manuals	<p>There are four manuals:</p> <ul style="list-style-type: none"> • The <i>User's Manual</i> provides information on principles of operation, digitizer components, maintenance, troubleshooting, and DIP switches. • <i>PC Installation and Utilities</i> provides information on drivers and utilities included with the digitizer, and information on using the digitizer in different PC application environments. • <i>Macintosh Driver Installation and Operation</i> extends the WACOM technology to the Macintosh family. • The <i>WACOM Programmer's Manual</i> (available on request) provides software developers the ability to control the flow and format of data programmatically.
Upgrades	<p>As new features, accessories, and software are developed, registered users will be notified about upgrade procedures.</p>
Support	<p>WACOM provides telephone support. (See "Troubleshooting.")</p>
Warranty	<p>Warranty information and the license agreement are included in this package.</p>
1-4	

The WACOM Advantage

The Basics

A digitizer is an electronic device that transmits coordinate data to software running on a host computer. Like those shown in Figure 2-A, digitizer components typically include a flat drawing surface called a "tablet," a selection tool called a "cursor" and a drawing tool called a "stylus." The cursor and stylus are referred to generally as "pointing devices."

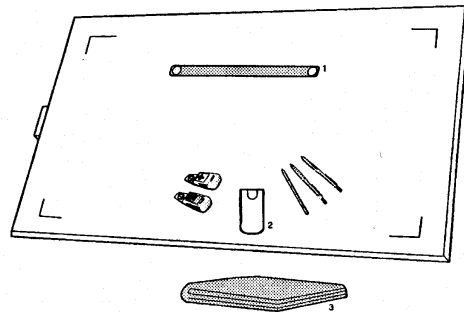


Figure 2-A
Digitizer Components

¹ Metal holding strip - Used to hold drawings. Press "PUSH" to remove it.

² Cursor pocket - Magnetically attached on the digitizer surface.

³ Dust-free cover cloth - Hang it on the digitizer surface to prevent the digitizer from dust while you do not operate the digitizer.

The Basics

Host
ComputerInterface
Cable

2-2

Digitizer size is expressed in terms of *effective area*, also referred to as the *active* or *sensing area*. The *effective area* is the part of the tablet surface which can detect the presence of the pointing device. *Reading height* is the maximum distance above the surface of the tablet that a pointing device can be detected. When a pointing device is being detected by the tablet it is said to be *in proximity*.

The WACOM Super Digitizers (SD-Series) come with an interface cable, drivers, and utilities for IBM PC compatibles or Macintosh computers. Cables, drivers, or support for many Unix workstations and other computers are available on request.

NOTICE

WACOM Super Digitizers must be connected to their host computer with a WACOM cable. Other computer cables will not work properly.

WACOM authorized interface cables are:

- TJ-417-2 (9-pin to 9-pin, 2 m) for IBM PC AT compatibles
- TJ-211A-2 (9-pin to 8-pin, 2m) for Macintosh
- TJ-412-2 (9-pin to 25-pin, 2 m) for other computers

The Basics

The Tablet

Active Area

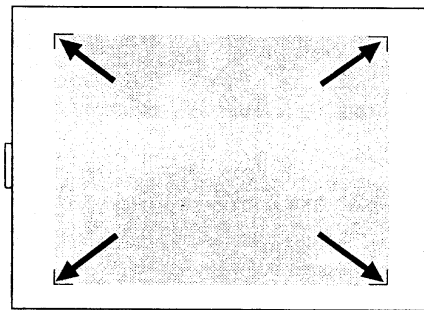


Figure 2-B
Active Area

The active area of the tablet is as shown in Figure 2-B.

NOTICE

In case of using the metal holding strip on the active area, 2 cm around the strip does not digitize accurately.

The switches and connections in the back of the tablet are shown in Figure 2-C.

The indicator unit is shown in Figure 2-D.

For other tablet specifications, see Appendix B.

The Basics

2-3

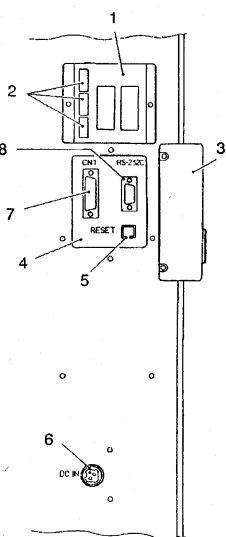


Figure 2-C
Tablet Rear View

- 1 DIP SWITCH SET WINDOW**
Sets the communication parameters with a host computer, and the tablet behaviour. Normally the window is closed with two screws.
- 2 DIP SWITCHES**
See Appendix A.
- 3 INDICATOR UNIT**
See section on Indicator Unit.
- 4 CONNECTOR PANEL**
Housing the interface connectors.
- 5 RESET**
Reinitializes the tablet according to the DIP switches.
- 6 DC IN**
Connection for the DC cable of the AC power adaptor.
- 7 CN 1 (15 pins)**
Connection to be used for maintenance and reserved for additional functions in the future.
- 8 RS-232C (9 pins)**
Connection for the interface cable that connects the tablet with a host computer.

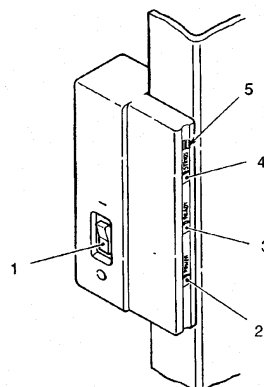
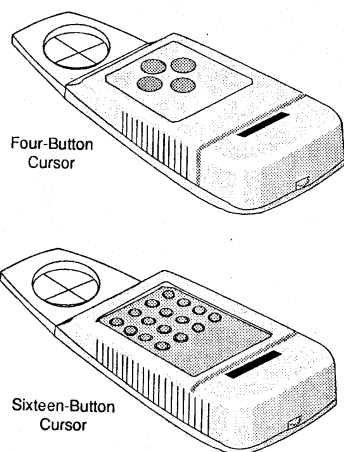


Figure 2-D
Indicator Unit

- 1 POWER** ON/OFF switch of the tablet.
- 2 POWER LAMP** Turns on RED while the power is ON.
- 3 READY LAMP** Turns on GREEN while the pointing device is within effective reading range.
- 4 STATUS LAMP** Turns on GREEN while the pointing device is within effective reading range and that a pointing device switch is ON.
- 5 TONE** Beep sound

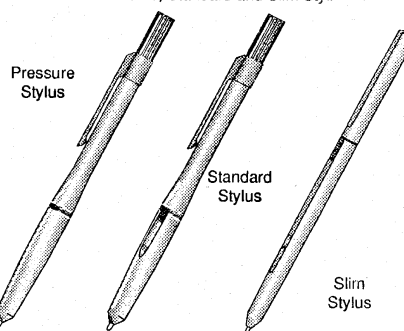
Figure 2-E
Four-Button and Sixteen-Button Cursors



The WACOM pointing devices are shown in Figures 2-E and 2F. For specifications, see Appendix B.

The four-button *cursor*, as well as the sixteen-button *cursor*, is a mouse-like tool with a pair of crossed hairs used for making precise selections. The replaceable button-menu panels are attached for the sixteen-button cursor to serve your choice. An eyelet is located at one end for attaching a safety cord.

Figure 2-F
Pressure, Standard and Slim Styli



The *pressure stylus* has a pressure-sensing tip and a detachable clip. Model SP-300 has a firmer feel (0-500 grams pressure) and can be identified by a blue band. Model SP-310 has a softer feel (0-300 grams pressure) and can be identified by a red band.

The *standard stylus* is a pen-like tool with a tip switch, a side or barrel switch, and a detachable clip and is available in two models. The SP-200, with a gray band, is a nonstroke stylus meaning there is a minimum amount of travel needed to close the tip switch. The SP-210, with a red barrel switch, is a stroke stylus meaning there is more travel needed to close the tip switch. The tip is available in plastic for drawing directly on the tablet or in pen-like color refills typically used for tracing.

The *slim stylus* is a slim type stylus with the same functions as the standard stylus, and is available in two models: the SP-200A with a gray clip, the SP-210A with a magenta clip.

DIP Switches

The digitizer operates according to a set of parameters that the user can define through DIP¹ switches. The digitizer reads the switches whenever the user turns the tablet on or presses the RESET button. For the location of switches and buttons, see "The Tablet" in this section.

To change a DIP switch setting, use a small tool (such as a tiny screwdriver or ballpoint pen) to flip the switch. Do not use a pencil as the graphite can collect under the switch.

The command set you select (using the appropriate DIP switches) affects the meaning of the remaining DIP switches. Be sure to use the correct DIP switch chart for the command set you are using. For DIP switch defaults, definitions, and options, refer to Appendix A.

Programs may alter the effects of DIP switch settings. Your software may set the tablet in a mode not set in the DIP switches.

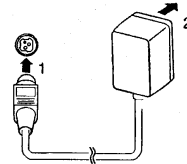
¹ "DIP" is an acronym for "Dual-In-line Package" — a type of switch housing that originated with integrated circuits.

It is a good practice to only change DIP switch settings with the power OFF since the digitizer will read the new settings when power goes ON.

Installation

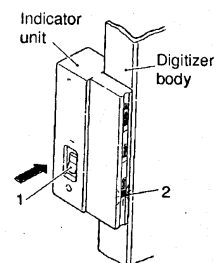
To install your digitizer follow the steps below.

■ Plug in the power supply.



1. Connect the DC plug into the DC IN on the digitizer back.
2. Insert the AC power adaptor¹ into an outlet.

■ Turn on the power.



1. Turn on the red power switch on the side of indicator unit. ON is marked "I". OFF is marked "O".
2. Check if the power lamp, on the indicator front, turns on.

¹WACOM authorized AC power adaptors are:

- POW-A044 for 120V AC power
- POW-A040 for 220V AC power

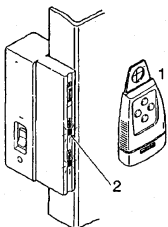
Installation

Step 1

Step 2

Step 3

■ Check if the cursor transmits a signal.



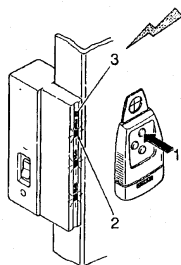
1. Place the cursor (either four-button or sixteen-button cursor) within the active area of the digitizer.
2. Check if the green ready lamp turns on, indicating the cursor is detected.

Now, you are ready to connect the interface cable with a host computer, if every indicator functions normally in the steps 1 through 4.

For cabling to your host computer, refer to your computer manual.

Step 4

■ Check if the cursor switch is detected and the buzzer sounds.



1. Press one cursor switch while placing the cursor within the active area.
 2. Green status lamp will go on indicating that the cursor switch is pressed.
 3. At the same time the buzzer sounds for approximately 40 msec when the buzzer dip switch is set to ON.
(The factory setting of the buzzer is ON.)
- Repeat 1 through 3 for all the other cursor switches.

Maintenance

Regular cleaning of the digitizer will help prolong its life and requires careful attention. To clean the digitizer, follow these steps:

1. Set the tablet's power switch to OFF.
2. Unplug the power cable from the back of the digitizer.
3. Dilute a neutral detergent solution, such as dishwashing liquid, in a bowl of lukewarm water.
4. Use a soft cotton, lint-free cloth to clean the tablet surface, cursor, and stylus.

CAUTION

Do not clean the digitizer with any volatile liquid like paint thinner, turpentine, or benzene. Such solvents may damage plastics used in the digitizer.

Cautions

Use proper care when working with or storing digitizer components:

- Avoid extreme heat and cold. Do not store components outdoors.
- Do not allow the components to stay in the direct rays of the sun.
- Do not allow any fluids to come into contact with the components, except when cleaning.
- Keep the tablet surface free of dust.
- Do not drop or hit the tablet, cursor, or stylus.
- Do not use any volatile liquid, like paint thinner, turpentine, or benzene. They may damage plastics used in the tablet.

Be sure that you have the correct refill for your stylus. Pressure styli will only work with pressure refills. Standard styli use standard or color refills.

Pressure stylus refills are entirely white.

Standard stylus refills have white tips and brass shafts.

Color stylus refills look like ball point pen refills, and are stainless steel.

To replace the refill, follow these steps:

1. Using a tool such as a pair of small pliers or strong tweezers, pull the old refill straight out of the stylus.
2. Insert the new refill straight into the space where the old refill had been.
3. Check to make sure the new tip is firmly in place by holding the stylus vertically and applying firm pressure on the tip.

CAUTION

Do not attempt to unscrew your stylus! It is all one piece. Attempting to separate it into two pieces will break your stylus.

Replacing Refills

Obtaining Refills

Standard and pressure stylus refills are made from Duracon, especially for WACOM. Contact your WACOM representative for replacements.

Color refills are available from your local WACOM representative.

NOTICE

Standard and color stylus refills will not work properly in pressure styli.

To find your WACOM representative contact:

WACOM Computer Systems GmbH
Neuss, Germany

WACOM Technology Corp.
Vancouver, WA, U.S.A.

WACOM Co. Ltd
Tokyo, Japan

Addresses and telephone numbers are in the front of this manual.

Maintenance

Troubleshooting

1. If your digitizer is not working at all:
 - Is the AC power adaptor connected to the main?
 - Is the DC power cable connected to the tablet?
 - Is the power switch turned on?
 - Is the interface cable between the tablet and the computer connected securely?
2. Check the settings on the DIP switches.
3. To see if there is a problem with the AC power adaptor, connect the adaptor to a component you know to be operational.
4. If the host computer is not receiving signals, make sure there is only one pointing device in the effective area at one time.

- 5
5. If you are receiving unusual coordinate data, check to make sure you are using the pointing device in the right modes.

Standard Stylus – Use nonpressure mode only

Pressure Stylus – Use pressure mode only

Switches and color bands are used to identify the different types of styli. See Appendix B.

Operation mode is selected through DIP switch settings. See Appendix A.

Procedures to select pressure or nonpressure modes:

- Macintosh: Use the Control Panel. See "Macintosh Installation and Operation."
- IBM PC: Use a program. See "PC Installation and Utilities Manual."

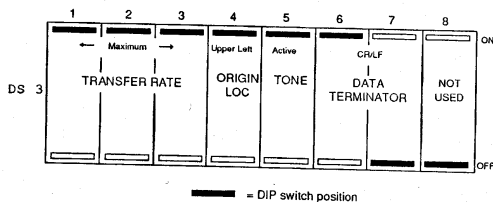
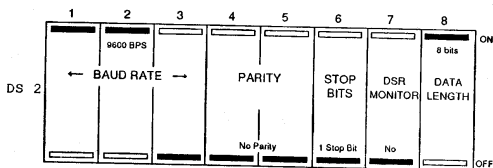
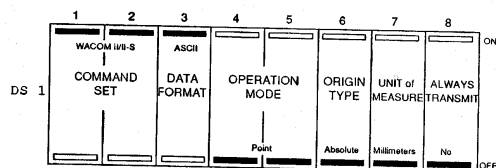
6. To talk with a WACOM technician:

Germany 49-2131-166001

USA 1-800-922-6635

Japan 81-480-72-7613

WACOM II (Factory) DIP Switch Defaults



WACOM II DIP Switch Options

DS 1		DS 2		DS 3	
COMMAND SET	1	BAUD RATE (bits/sec)	2	TRANSFER RATE (points/sec)	3
WACOM II	ON	150	OFF	1	OFF
DATA FORMAT	3	300	OFF	2	OFF
Binary	OFF	600	OFF	5	OFF
ASCII	ON	1200	OFF	10	OFF
OPERATION MODE	4	2400	ON	20	OFF
Point	OFF	4800	ON	50	OFF
Suppressed	ON	9600	ON	67	ON
Switch Stream	ON	19,200	ON	100	ON
Stream	ON			MAX	ON
ORIGIN	6	PARITY	4	ORIGIN LOCATION	4
Absolute	OFF	None	OFF	Lower left	OFF
Relative	ON	Odd	ON	Upper left	ON
UNIT OF MEASURE	7	Even	ON	TONE	5
Millimeters	OFF	STOP BITS	6	Disabled	OFF
Inches	ON	1	OFF	Enabled	ON
ALWAYS TRANSMIT	8	2	ON	DATA TERMINATOR	6
No	OFF	DSR MONITOR	7	CR	OFF
Yes	ON	No	OFF	LF	ON
		Yes	ON	CR/LF	ON
		DATA LENGTH	8	NOT USED	8
		7 bits	OFF	Mandatory setting	OFF
		8 bits	ON		

Factory Setting

■ ON or OFF

WACOM II DIP Switch Definitions

DS 1 (DIP Switch 1)

- | | |
|------------------|--|
| 1, 2 COMMAND SET | WACOM II |
| 3 DATA FORMAT | ASCII or Binary
Format of the data sent from the digitizer to the host |
| 4, 5 OPERATION | <p>Determines the mode in which coordinate data is sent to the digitizer:</p> <ul style="list-style-type: none"> ■ Point Mode
Sends one pair of X,Y coordinates with each switch press of the pointing device ■ Suppressed Mode
Sends X,Y coordinates only when a "significant" pointing device event occurs. This event could be a: <ul style="list-style-type: none"> • Switch press or release • Entering or leaving the effective area • Change in X or Y greater than a specified value ■ Switch Stream Mode
Sends X,Y coordinates continuously while a button or stylus switch is pressed ■ Stream Mode
Sends X,Y coordinates continuously |

6 ORIGIN TYPE

- Relative
Like a traditional mouse every touchdown creates a new origin.
- Absolute
The origin is fixed at the location selected with the ORIGIN LOCATION DIP switch.

7 UNIT OF MEASURE

Inches or millimeters. Mesurement unit of the data coordinates. See "Resolution" under "General Specifications" in Appendix B.

8 ALWAYS TRANSMIT

- Yes
In stream mode, coordinates will be sent continuously when the pointing device is in or out of the effective area.
- No
In stream mode, no data will be sent to the host when the pointing device is out of the effective area. For more details on this parameter, refer to the *WACOM Programmer's Manual*, AL command.

WACOM II DIP Switch Definitions *(continued)*

DS 2 (DIP Switch 2)

- | | | |
|---------|-------------|--|
| 1, 2, 3 | BAUD RATE | 150 - 19,200 bps
Number of bits transmitted per second from the digitizer to the host. Baud rate for the digitizer and host must be the same. |
| 4, 5 | PARITY | Parity, a method used to determine if an error occurred in data transmission, can be even, odd, or none. Parity for the digitizer and host must be the same. |
| 6 | STOP BITS | Number of stop bits to signal the end of a character. Stop bits for the digitizer and host must be the same. |
| 7 | DSR MONITOR | Determines whether or not the tablet responds to the DSR input signal of the RS-232C serial port. |
| 8 | DATA LENGTH | The number of bits in a character. Must be the same for digitizer and host. |

DS 3 (DIP Switch 3)

- | | | |
|---------|-----------------|---|
| 1, 2, 3 | TRANSFER RATE | Number of coordinate pairs transmitted per second with related switch or pressure data. |
| 4 | ORIGIN LOCATION | If ORIGIN TYPE is "absolute" (DS 1, switch 6), ORIGIN LOCATION determines whether the origin is in the upper or lower left of the tablet. |
| 5 | TONE | Activates or disables audio feedback |
| 6, 7 | DATA TERMINATOR | A data delimiter — CR/LF, CR, LF. The characters sent to signal the end of an X,Y coordinate pair in ASCII mode data transmission |
| 8 | NOT USED | Must be set to OFF (mandatory setting) |

Microgrid II DIP Switch Defaults

1	2	3	4	5	6	7	8
COMMAND SET		DATA FORMAT		OPERATION MODE		ORIGIN TYPE	
CURSOR SELECT		ALWAYS TRANSMIT					

ON OFF

1	2	3	4	5	6	7	8	
BAUD RATE			PARITY		STOP BITS		DSR MONITOR	
DATA LENGTH								

ON OFF

1	2	3	4	5	6	7	8	
TRANSFER RATE			RESOLUTION		DATA TERMINATOR		ASCII FORMAT	
DECIMAL POINT								

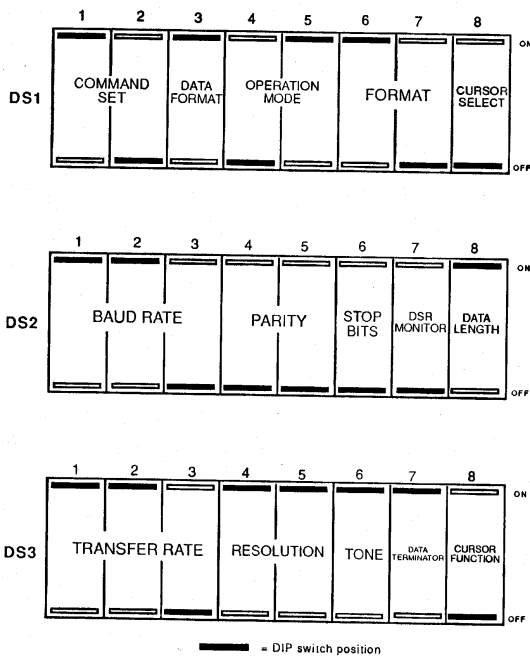
ON OFF

— = DIP switch position

Microgrid II DIP Switch Options

DS 1		DS 2		DS 3	
COMMAND SET		BAUD RATE (bit/sec)		TRANSFER RATE (points/sec)	
1	2	1	2	1	2
Microgrid II	OFF	150	OFF	1	OFF
	ON	300	OFF	2	OFF
DATA FORMAT		600	OFF	5	OFF
Binary	OFF	1200	OFF	10	OFF
ASCII	ON	2400	ON	30	OFF
		4800	ON	60	OFF
OPERATION MODE		9600	ON	85	ON
Point	OFF	19,200	ON	100	ON
Remote Request	ON				
Switch Stream	ON				
Stream	ON				
ORIGIN		PARITY		RESOLUTION (lines/inch)	
Absolute	OFF	None		5	
Relative	ON	Odd		200	
		Even		254	
CURSOR SELECT		STOP BITS		1016	
4-Button	OFF	1			
16-Button	ON	2			
ALWAYS TRANSMIT		DSR MONITOR		DATA TERMINATOR	
Off	ON	No		CR	
On	OFF	Yes		CR/LF	
ASCII FORMAT		DATA LENGTH		ASCII FORMAT	
Inch/mm	OFF	7 bits		Inch/mm	
Normal	ON	8 bits		Normal	
DECIMAL POINT				DECIMAL POINT	
No	OFF			No	
Yes	ON			Yes	

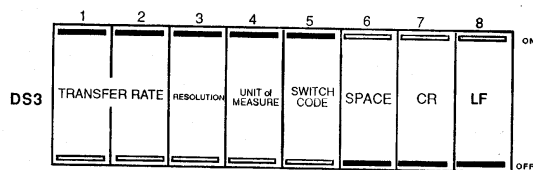
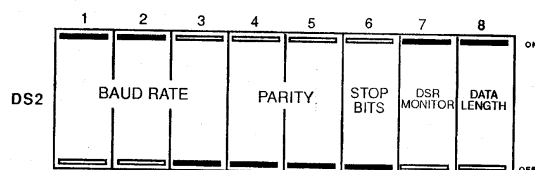
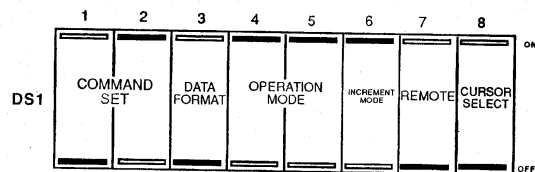
CalComp DIP Switch Defaults



CalComp DIP Switch Options

DS 1		DS 2		DS 3	
COMMAND SET	CalComp	BAUD RATE (bits/sec.)	1 2 3	TRANSFER RATE (points/sec.)	1 2 3
	ON OFF		1 2 3		1 2 3
DATA FORMAT	Binary	150	OFF	5	OFF
	ASCII	300	OFF	10	OFF
OPERATION MODE	Halt	600	OFF	20	OFF
	Point	1200	OFF	50	OFF
FORMAT	# 1	2400	ON	100	ON
	# 2	4800	ON	MAX	ON
CURSOR SELECT	4-Button	19,200	ON	RESOLUTION	4 5
	16-Button		ON	NOT USED	OFF
CURSOR FUNCTION	Disabled	PARITY	4 5	50 line/mm	OFF
	Enabled	None	OFF	40 line/mm	ON
DATA TERMINATOR	CR	Odd	ON	1000 line/inch	ON
	CR+LF	Even	ON	TONE	6
DATA LENGTH	7 bits	STOP BITS	6	Disabled	OFF
	8 bits	1	OFF	Enabled	ON
CURSOR FUNCTION	Disabled	2	ON	DATA TERMINATOR	7
	Enabled	DSR MONITOR	7	CR	OFF
CURSOR FUNCTION	Disabled	No	OFF	CR+LF	ON
	Enabled	Yes	ON	CURSOR FUNCTION	8
CURSOR FUNCTION	Disabled	DATA LENGTH	8	Disabled	OFF
	Enabled	7 bits	OFF	Enabled	ON
CURSOR FUNCTION	Disabled	8 bits	ON		
	Enabled				

GTCO DIP Switch Defaults



■ = DIP switch position

GTCO DIP Switch Options

DS 1		DS 2		DS 3	
COMMAND SET		BAUD RATE (bits / sec.)		TRANSFER RATE (points / sec.)	
GTCO	1 OFF 2 ON	1 150 2 OFF 3 OFF	1 12 2 OFF 3 OFF	1 12 2 OFF 3 OFF	1 12 2 OFF 3 OFF
DATA FORMAT	3 OFF 4 ON	4 300 5 OFF 6 ON	4 100 5 OFF 6 ON	4 100 5 OFF 6 ON	4 100 5 OFF 6 ON
Binary	OFF	7 600 8 OFF 9 ON	7 200 8 OFF 9 ON	7 200 8 OFF 9 ON	7 200 8 OFF 9 ON
ASCII	ON	10 1200 11 OFF 12 ON	10 200 11 OFF 12 ON	10 200 11 OFF 12 ON	10 200 11 OFF 12 ON
OPERATION MODE	4 OFF 5 ON	13 2400 14 OFF 15 ON	13 200 14 OFF 15 ON	13 200 14 OFF 15 ON	13 200 14 OFF 15 ON
Point	OFF	16 4800 17 OFF 18 ON	16 200 17 OFF 18 ON	16 200 17 OFF 18 ON	16 200 17 OFF 18 ON
Switch Stream	ON	19 9600 20 OFF 21 ON	19 200 20 OFF 21 ON	19 200 20 OFF 21 ON	19 200 20 OFF 21 ON
Stream	ON	22 19,200 23 OFF 24 ON	22 200 23 OFF 24 ON	22 200 23 OFF 24 ON	22 200 23 OFF 24 ON
INCREMENT MODE	6 OFF 7 ON	25 PARITY	25 4 OFF 26 ON	25 UNIT of MEASURE	25 4 OFF 26 ON
No	OFF	26 None	26 OFF	26 mm	26 OFF
Yes	ON	27 Odd	27 ON	26 inch	26 ON
REMOTE	7 OFF 8 ON	28 Even	28 ON	27 SWITCH CODE	27 5 OFF 28 ON
Disabled	OFF	29 STOP BITS	29 6 OFF 30 ON	28 No	28 OFF
Enabled	ON	30 1	30 OFF	28 Yes	28 ON
CURSOR SELECT	8 OFF 9 ON	31 DSR MONITOR	31 7 OFF 32 ON	29 SPACE	29 6 OFF 30 ON
4-Button	OFF	32 No	32 OFF	30 Yes	30 ON
16-Button	ON	33 Yes	33 ON	31 CR	31 7 OFF 32 ON
		34 DATA LENGTH	34 8 OFF 35 ON	32 No	32 OFF
		35 7 bits	35 OFF	32 Yes	32 ON
		36 8 bits	36 ON	33 LF	33 8 OFF 34 ON
				34 No	34 OFF
				34 Yes	34 ON

Defaults
■ ON or OFF

User DIP Switch Settings

Use this page to record your configuration.

	1	2	3	4	5	6	7	8	
DS 1	COMMAND SET	DATA FORMAT	OPERATION MODE	ORIGIN TYPE	UNIT OF MEASURE	OUT-OF- RANGE DATA	ON		
							OFF		

	1	2	3	4	5	6	7	8	
DS 2	← BAUD RATE →		PARITY	STOP BITS	DSR MONITOR	DATA LENGTH	ON		
	OFF								

	1	2	3	4	5	6	7	8	
DS 3	TRANSFER RATE		ORIGIN LOC	TONE	DATA TERMINATOR	ON			
	OFF								

■ = DIP switch position

Tablet Specifications

Size	A0
Surface	Model Numbers
Standard	SD-013A
Active area (mm)	1193 x 889
Physical size (mm)	1454 x 1091 x 30
Weight (kg)	33
Command Sets	
WACOM II	✓
Microgrid	✓
CalComp	✓
GTCO	✓
Input current	400 mA max @ DC12V

Power supply DC 12V

General Specifications

	A0
Resolution	
mm mode	0.02 mm
inch mode	0.001 inch
Accuracy	± 0.15 mm
Maximum reading height	4 mm with cursor
Maximum report rate	205 points per second
Origin position	Arbitrarily selectable within effective reading range
Interface	RS-232C
Operating temperature	5°C - 40°C (41°F - 104°F)
Storage temperature	-10°C - 60°C (14°F - 140°F)
Humidity	20% - 80% (noncondensing)

Pointing Device Specifications

Four-Button Cursor SC-410	Size (mm) Weight (grams)	62 x 130 x 24 55
Sixteen-Button Cursor SC-610	Size (mm) Weight (grams)	62 x 130 x 24 85

Pressure Stylus	SP-300 Blue Pressure-sensing tip 0-500 Firm Duracon 1.2 11 x 148 43 x 5.8 11	SP-310 Red Pressure-sensing tip 0-300 Soft Duracon 1.2 11 x 148 43 x 5.8 11
Standard Stylus	SP-200 0.2 mm (nonstroke) Gray Tip and side Duracon or color (type 4C) 11 x 148 11	SP-210 0.9 mm (stroke) Red Tip and side Duracon or color (type 4C) 11 x 148 11
Slim Stylus	SP-200A 0.2 mm (nonstroke) Gray Tip and side Duracon 11 x 142.5 43 x 5.6 8.4	SP-210A 0.9 mm (stroke) Magenta Tip and side Duracon 11 x 142.5 43 x 5.6 8.4

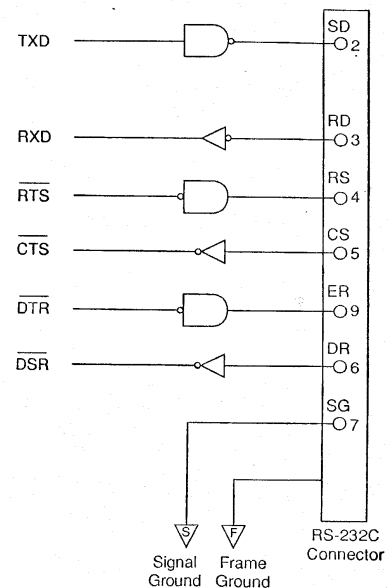
* See "Maintenance" for purchase information

B-3

RS-232C Digitizer Circuit



(RS-232C connector on the digitizer back)



B-4